REMARKS

The Office Action dated February 15, 2006, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1 and 8 have been amended. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-3, 5-10 and 12-15 are submitted for consideration.

Claims 1-3, 5-10 and 12-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 6,118,768 to Bhatia in view of U.S. Patent No. 6,657,951 to Carroll. The Office Action alleges that Bhatia teaches all of the elements of claims 1-3, 5-10 and 12-15 but does not teach that an internal interconnecting device is arranged to forward an identical copy of an internal message, sent by one of the sending application processing, to each of the at least two copies of a corresponding receiving application process for receipt in identical order. Thus, the Office Action combined the teachings of Bhatia and Carroll to yield all of the elements of claims 1-3, 5-10 and 12-15. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1 and 8.

Claim 1, upon which claims 2-7 depend, recites a system for transmitting internal messages in a local network while maintaining message synchronism. The system includes multiple sending computer units, each for running at least one sending application process for sending an internal message. The system also includes multiple

receiving computer units (CPUr), each for running at least one receiving application process for receiving a sent internal message. Each receiving application process has at least one replicated copy residing in at least one of the multiple receiving computer units. When sending the internal message from a sending application process to an intended receiving application process, the sending application process is arranged to send an identical copy of the internal message to at least one replicated copy of the intended receiving application process. The system further includes one interface unit (IF) per one or more computer units for buffering and relaying internal messages sent to and from the corresponding computer units and multiple external links (SrL), each for linking a computer unit to its corresponding interface unit. The system also includes an internal interconnecting device (IxD) for receiving internal messages relayed by the interface units corresponding to the sending computer units, and for forwarding each received internal message to the interface units corresponding to the respective receiving computer units, one received internal message at a time, the interconnecting device internally coupled with the interface units. At least one of the interface units, at least one of the external links and the internal interconnecting device are arranged to forward the identical copy of the internal message sent by the sending application process, to the intended receiving application process and to each replicated copy of the intended receiving application process for receipt in identical order. At least one of the interface units, at least one of the external links and the internal interconnecting device are

-9-

arranged to route an internal message sent by a sending application process to a receiving application process running in a same computer unit via the interconnecting device.

Claim 8, upon which claims 9-15 depend, recites a system for transmitting internal messages in a local network while maintaining message synchronism. The system includes multiple sending computer units, each for running at least one sending application process for sending an internal message. The system also includes multiple receiving computer units (CPUr), each for running at least one receiving application process for receiving a sent internal message. Each receiving application process has at least one replicated copy residing in at least one of the multiple receiving computer units, wherein when sending the internal message from a sending application process to an intended receiving application process, the sending application process is arranged to send by using group addressing an identical copy of the internal message to at least one replicated copy of the intended receiving application process. The system further includes multiple multiplexer units (MUX), each for collecting internal messages from and distributing internal messages to one or more sending computer units and one interface unit (IF) per one or more multiplexer units for buffering and relaying internal messages sent to and from the corresponding multiplexer units. The system also includes an internal interconnecting device (IxD) for receiving internal messages relayed by the interface units corresponding to the sending computer units, and for forwarding each received internal message to the interface units corresponding to the respective receiving computer units, one received internal message at a time, the interconnecting device

internally coupled with the interface units. At least one of the interface units, at least one of the multiplexer units and the internal interconnecting device are arranged to forward the identical copy of the internal message, sent by the sending application process, to the intended receiving application process and to each replicated copy of the intended receiving application process for receipt in identical order. At least one of the interface units, at least one of the multiplexer units and the internal interconnecting device are arranged to route an internal message sent by a sending application process to a receiving application process running in a same computer unit via the interconnecting device.

As will be discussed below, the cited prior art reference of Bhatia and Carroll fail to disclose or suggest the elements of any of the presently pending claims.

Bhatia discloses a LAN modem that interconnects a group of workstations. The LAN modem may operate as a true router and determine if a destination packet is for a local application or to be routed to a remote network. Col. 11, lines 1-23 and Figure 2A. The LAN modem may be configured to use multi-link point-to-point protocol to establish connection with the PSTN and the service provider for the remote network, where the number of ISDN-B channels that carry traffic at any one time will dynamically vary between one and two based on the occurring traffic loading. Col. 11, lines 24-42. The LAN modem may also assign local dynamic IP addresses to the workstations and can also provide two simultaneous connections for different workstations in the LAN over separate ISDN-B channels to different corresponding remote networks. Col. 11, line 43 – Col. 12, line 34 and Figure 2B. The LAN modem may also provide simultaneous access

for any or all workstations in the LAN to a common service provider through a single account. As such, all packet traffic involving the workstations that share a single common public IP address will appear, by virtue of their common, though shared, public IP address, to emanate from or be directed to a single user. Col 12, line 35-Col. 13, line 63 and Figure 2C.

Carroll discloses a backup virtual LAN arrangement for providing a redundant path for traffic between undistributed Concentrator Relay Functions (CRF) located on different switches interconnected by trunk links of a distributed token ring bridge. The backup arrangement is for use in cases where a primary active path is invalid and it includes a CRF that is distributed among the switches, but that has only one port active at any given time. See at least the Abstract.

Applicant submits that the combination of Bhatia and Carroll simply does not teach or suggest each of the elements of the presently pending claims. Each of claims 1 and 8 recites, in part, multiple receiving computer units (CPUr), each for running at least one receiving application process for receiving a sent internal message, each receiving application process having at least one replicated copy residing in at least one of said multiple receiving computer units, wherein when sending the internal message from a sending application process to an intended receiving application process, said sending application process is arranged to send an identical copy of said internal message to at least one replicated copy of said intended receiving application process. Bhatia simply does not teach or suggest multiple receiving computer units (CPUr), each for running at

least one receiving application process for receiving a sent internal message, each receiving application process having at least one replicated copy residing in at least one of said multiple receiving computer units, wherein when sending the internal message from a sending application process to an intended receiving application process, said sending application process is arranged to send an identical copy of said internal message to at least one replicated copy of said intended receiving application process, as recited in claims 1 and 8. Bhatia merely discloses a conventional non-replicated LAN arrangement suited for small user arrangements.

Assuming as the Office Action alleges that workstations 10g-10j of Bhatia correspond to the sending and receiving computer units of the local network of the present invention and that the ISDN LAN modem 300 and/or ISDN Router 305 of Bhatia correspond to the internal interconnecting device, as recited in the present invention, then Bhatia would have to teach (1) a receiving application process running in one of the workstations 10g- 10j **and** at least one replicated copy of this receiving application process residing in at least one of the workstations 10g- 10j; and (2) each time a sending application process (running in one of the workstations 10g- 10j) sends an internal message to an intended receiving application process (running in one of the workstations 10g- 10j), the sending application process also sends an identical copy of the internal message to a replicated copy (running in one of the workstations 10g- 10j) of the intended receiving application process. Applicant submits that Bhatia simply does not teach or suggest either of these features as recited in the presently pending claims.

Furthermore, it should also be noted that since the present invention relates specifically to **internal** messages and since the local network in the case of Bhatia would be limited to the arrangement of the workstations 10g-10j and ISDN LAN Modem 300 and/or ISDN Router 305, any messages going to/coming from outside of this arrangement (e.g. to/from PSTN 50 or Remote Network 60) would be irrelevant. Internal messages are defined as messages sent from a computer unit in a local network to computer units in the same local network as opposed to traffic to/from external networks, such as the Internet. See at least paragraph 0015 of the present application.

As indicated above, Bhatia fails to teach or suggest a fault tolerant local computer network wherein the fault tolerance is achieved via replicated application processes and message synchronism. In addition, Bhatia admits that the disclosed arrangement is suited for small user environments. See at least the Abstract of Bhatia. Yet, as is commonly known in the art, fault tolerance via replicated application processes and message synchronism is not a feature of small user environments but rather a feature typically utilized in large and complex computer systems that are required to provide services at all times with no or at least minimal downtime, such as some telecommunication network elements and server clusters. Therefore, there would be no motivation for a person skilled in the art to consult Bhatia to provide for fault tolerance via replicated application processes and message synchronism, as recited in the presently pending claims.

Bhatia further fails to teach or suggest routing an internal message sent by a sending application process to a receiving application process running in a same

computer unit via said interconnecting device, as recited in the presently pending claims. To allow this, Bhatia would have to teach forwarding a message sent from a sending application process running, for example in the workstation 10g *via ISDN LAN Modem 300/ISDN Router 305* back to a receiving application process running in the same work-stations 10g. Yet there is no teaching or suggestion in Bhatia that when both the sending and receiving application process are running in a same workstation, a message would still be routed via ISDN LAN Modem 300/ISDN Router *305.* Since such an arrangement is prohibited by prior art specifications (as described in paragraph 0013 of the present application) and since Bhatia does not suggest any proprietary arrangements to circumvent these prohibitions, one must conclude that the above message, in Bhatia, would be routed directly to the receiving application process, i.e. *not* via ISDN LAN Modem 300/ISDN Router 305.

Carroll fails to cure the deficiencies of Bhatia, as outlined above. Specifically, Carroll fails to teach or suggest forwarding an identical copy of an internal message sent by a sending application process to an intended receiving application process and to each replicated copy of the intended receiving application process for receipt in identical order, as recited in claims 1 and 8. Rather, Carroll merely discloses providing an alternative path for traffic to be utilized if a primary active path is not valid. See at least Col. 6, lines 5-13 of Carroll. There is no indication in Carroll of how this alternative path could be used for forwarding identical copies of internal messages to an intended receiving application process and to each replicated copy of the intended receiving
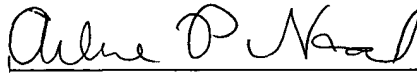
application process for receipt in identical order, as recited in the presently pending claims. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Bhatia nor Carroll, whether taken singly or combined, teaches or suggests each feature of claims 1 and 8 and hence, dependent claims 2, 3, 5-7 9, 10, and 12-15 thereon.

As noted previously, claims 1-3, 5-10 and 12-15 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-3, 5-10 and 12-15 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

Arlene P. Neal
Registration No. 43,828

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

APN:kmp